

Revised Near-Infrared Surface Albedos for Titan

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Titan's near infrared opacity is dominated by methane absorption and is minimally affected by the stratospheric haze which dominates at shorter wavelengths. In certain narrow spectral "windows", the gases of the atmosphere absorb only weakly. It is generally well accepted that in these spectral regions, we are sampling Titan's surface.

We have obtained additional spectra of Titan covering the 0.85-2.20 micron region using the KSPEC instrument on the UH 2.24 meter telescope. These spectra have been absolutely calibrated using K-band photometry using the dual imaging/spectroscopic modes of KSPEC which eliminates uncertainty due to slit misalignment and tracking difficulties.

Calibrated geometric albedos in the 1.1, 1.3, 1.6, and 2.0 micron windows were obtained and converted to surface reflectance/albedo using a Titan atmospheric model developed by C. McKay. These values are presented and their implications on possible surface composition are discussed.

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